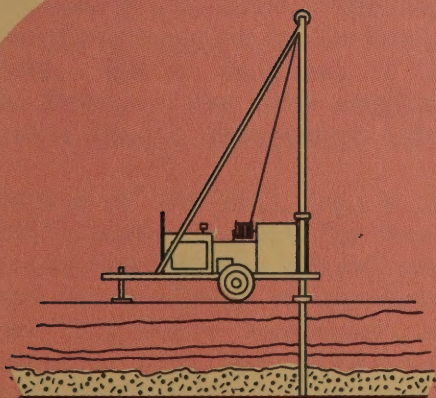
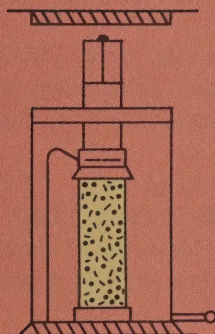


STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION



SOIL MECHANICS
BUREAU



TEST WELL REPORT

PROPOSED RESIDENT ENGINEERS
SUBHEADQUARTERS AT RAYBROOK

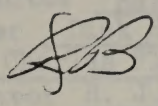
PIN 1800.73.101
CONTRACT D96199

ESSEX COUNTY

MEMORANDUM
DEPARTMENT OF TRANSPORTATION

DATE October 26, 1979

SUBJECT PIN 1800.73.101; D96199
TEST WELL FOR PROPOSED MAINTENANCE ENGINEERS SUBHEADQUARTERS
AT RAY BROOK: ESSEX COUNTY

FROM R. J. Bazarnick, Assistant Engineering Geologist 

TO E. M. Moody, Associate Soils Engineer

On September 19, 1979, the contractor, Hall and Company, Inc., began work on the subject project. On September 20, 1979, the 12 inch oversized hole had been drilled to a depth of 32.5 feet from ground surface and the contractor was asked to stop drilling at that point since the grain size of the samples began getting finer with depth. The writer conducted sieve analyses on five samples from 20 to 32 feet in depth as measured from the ground surface. The results of these sieve analyses showed that the well should be finished only to a depth of 30 feet from ground surface. The writer also made the determinations of the gravel pack gradation and the screen slot size from these curves. The gradation of the proposed gravel pack and the screen slot size and screen length were given to the contractor on September 21, 1979.

On September 25, 1979, the contractor, having procured the correct gravel pack mixture and well screen, began constructing the 12 inch by 6 inch gravel packed and screened well as designed.

On September 26, 1979, the contractor began developing the test well. Development of the well proceeded for a total of 7.5 hours until only small amounts of sand from the water-bearing formation were being pumped from within the screen. The well was then chlorinated, recirculated and left overnight.

A 12 hour continuous yield test was run from 6AM until 6 PM on September 27, 1979. The contractor took bacteriological and chemical-physical samples to be analyzed by Bender Laboratories in Albany, New York. Mr. J. Callahan of the New York State Department of Health office in Saranac Lake took samples of the water and sent them to the New York State Health Department laboratories in Albany, New York, for analyses.

Copies of the well log, a cross section of the well, the grain size distribution curves for the five samples analyzed, the curve and gradation for the gravel pack, the results of the 12 hour pump test and the analyses of the water samples by both Bender Laboratories and New York State Department of Health Laboratories are included in this report. Both the bacteriological and chemical-physical reports indicate that treatment of this source is not necessary.

As a result of the pump test, this Bureau recommends that the pump intake be set at approximately 24.5 feet below the existing ground surface and the pumping rate should not exceed 25 gpm.

RJB:sd

NYSDOT
Library
50 Wolf Road, POD 34
Albany, New York 12232

State of New York
Dept. of Transportation
Soil Mechanics Bureau
TEST WELL LOG

Region No. 1
County Essex
Proj. No. 1800.73.101
Requesting Dept. _____
Project Proposed Maintenance Engineer's Subheadquarters at Ray Brook

Test Well No. 1
Gr. Elev. _____
Location _____

Depth, ft.

Description

Date Start 9/19/79
Date Finish 9/27/79
Contractor Hall & Company, Inc.
Driller Dick Rowe
EIC Charles Flewelling
Inspector R. J. Bazarnick
Rig Type Cable

Well Data

Hole Diam. 12 inches
Final Depth 30 feet
Casing Diam. 6 inches
Casing Length 27.5 feet
Casing Above Ground 2.5 feet
Screen Type Johnson Super Stainless-20 slot
Screen Setting -30 to -25 feet
Gravel Pack -30.5 feet to -14 feet
Grout None

Development 7.5 hours of continuous surging and simultaneous pumping.

Test Data

Static Depth to Water 15.28 feet
Pump Setting 29 feet
Pumping Rate 25 gpm
Date and Duration 9/27/79
Specific Capacity 4.1 gpm/ft

Recommendations

Pump Setting intake at -24.5 ft.
Pumping Rate No greater than 25 gpm

Remarks All depths are distances from ground surface

5 Medium sand, some silt and gravel

10 Medium sand, some silt

15 Medium sand, some silt

20 Medium to fine sand
some silt and gravel

Medium to fine sand,
some silt and gravel

25 Medium sand, some silt
and gravel

Medium sand, some silt
and gravel

30 Medium to fine sand, some
silt and gravel

Fine sand and silt

Bottom of 12"
oversized hole

State of New York
Dept. of Transportation
Bolt Machine Bureau
TEST NO. 100

Last Well No. 1
Dr. No. 1
Location

Section No. 1
Survey Date
Date, No. 1000 0000
Investigation Dept.

Notes from the Engineer's Office at New York

Depth, ft.	Description	Notes
0	Well head, some dirt and gravel	Well head Data dated 10/10/10 Contractor, Bell & Company, Inc. Driller, John R. Bell SIC, Charles H. Bell Inspector, R. J. Bell Big type
10	Medium sand, some dirt	Well Data Note: Head, 10 inches Total Depth, 10 feet Casing Depth, 5 inches Casing Length, 5.5 feet Casing Above Ground, 1.5 feet Screen Type Johnson Super Strainer 10 inch Screen Rating - 20 to 25 feet Gravel Pack - 10 to 15 feet Grout Type
20	Medium sand, some dirt	Development 1/2 hour of continuous pumping and observation recorded.
30	Medium to fine sand, some dirt and gravel	Test Data Static Depth to Water 17.50 feet Pump Rating 25 feet Pumping Rate 25 gpm Date and Duration 10/10/10 Specific Capacity 4.1 gpm/ft
40	Medium to fine sand, some dirt and gravel	Recommendations Pump Rating 25 gpm at 25.5 ft Pumping Rate 25 gpm for 25 minutes
50	Thin sand and dirt	Remarks: All depths are distances from ground surface

20-22'

U.S. DEPARTMENT OF TRANSPORTATION

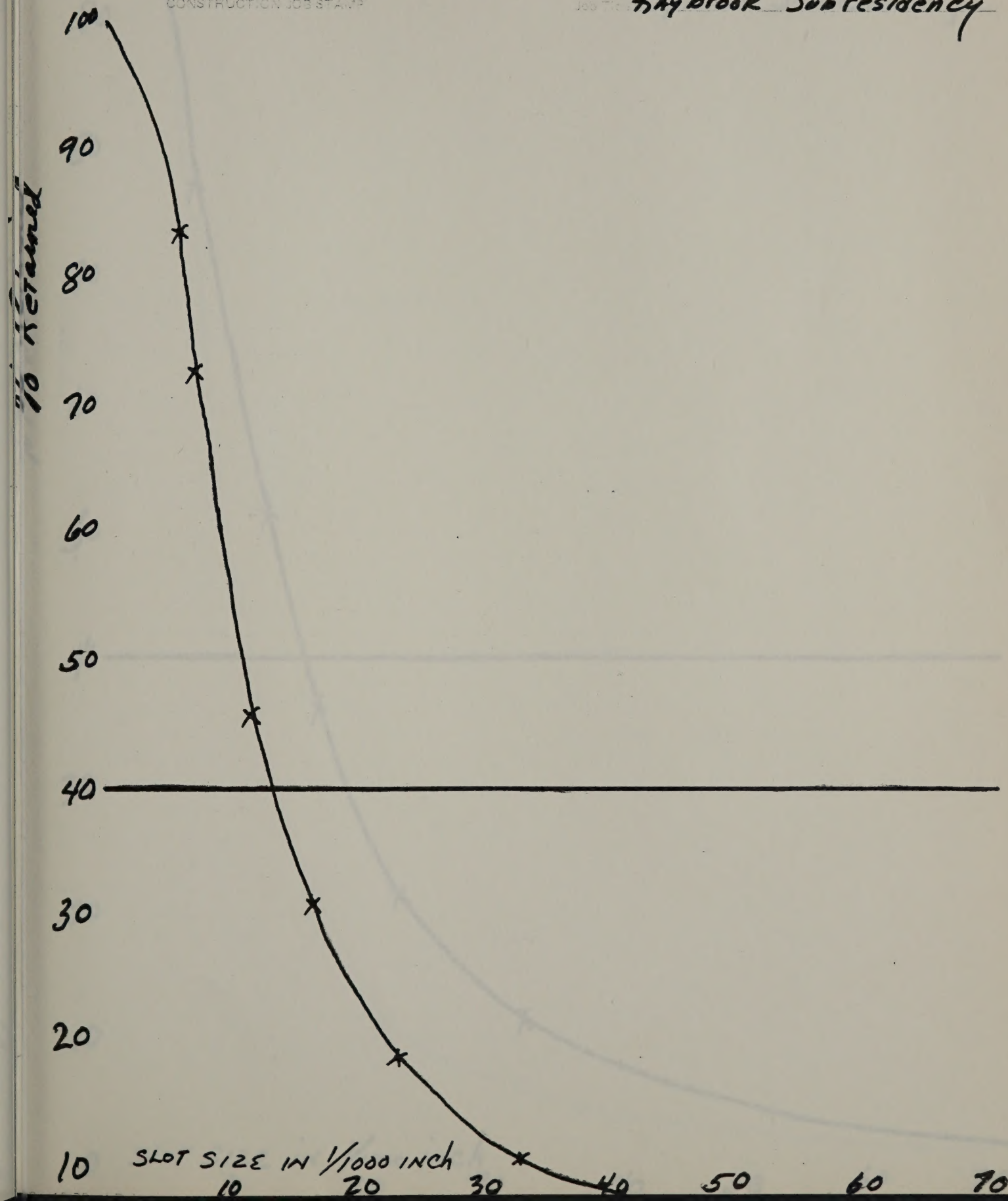
Sheet _____ of _____ Prep. by _____ Date _____

Checked by _____ Date _____ Designation: SR No. _____

County _____ P.M. _____

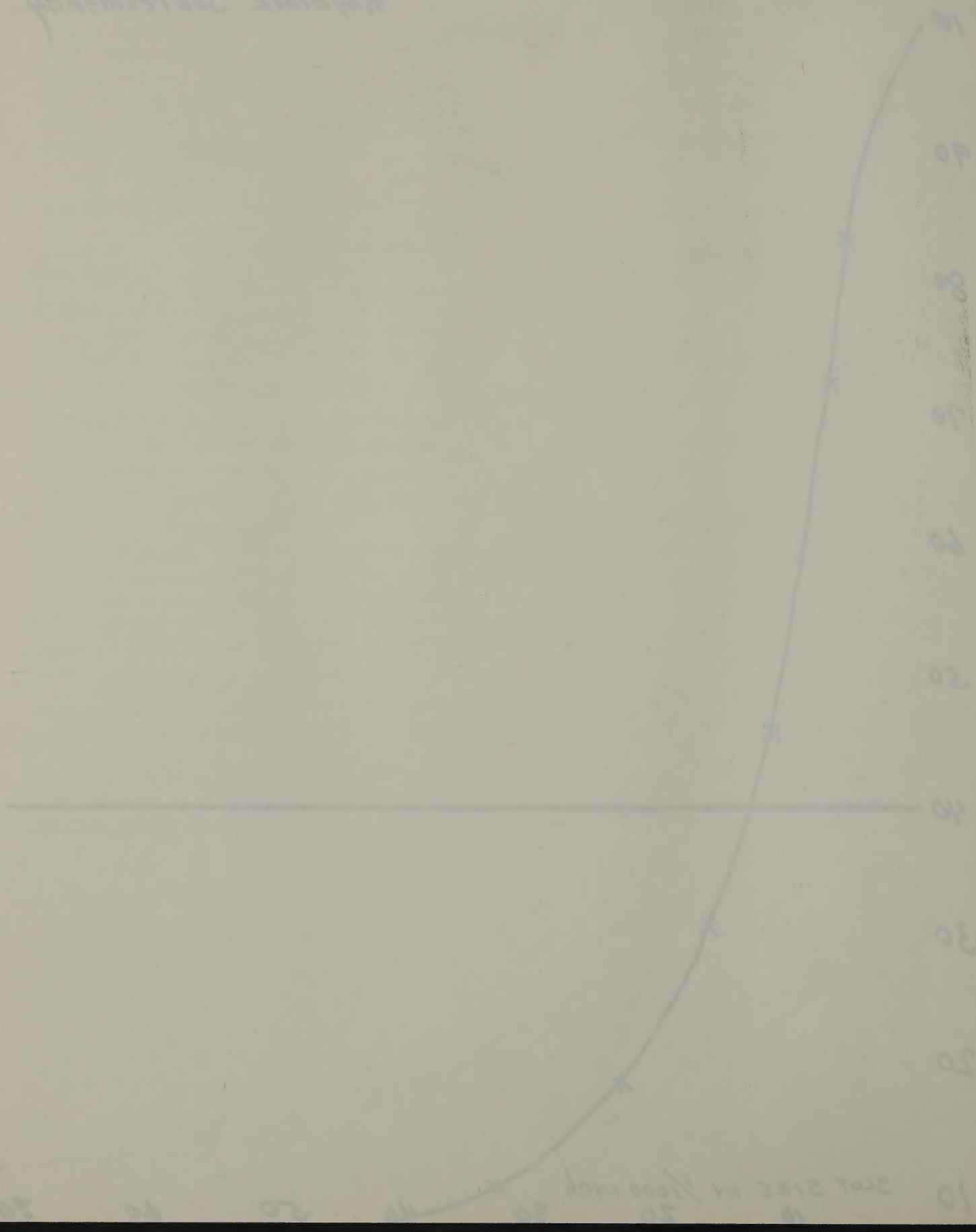
Job Title: Raybrook Subresidency

CONSTRUCTION JOB STAMP



20-25

Hydrostatic Submergence



22-25'

N.Y.S. DEPARTMENT OF TRANSPORTATION

Sheet _____ of _____ Prep. by _____ Date _____

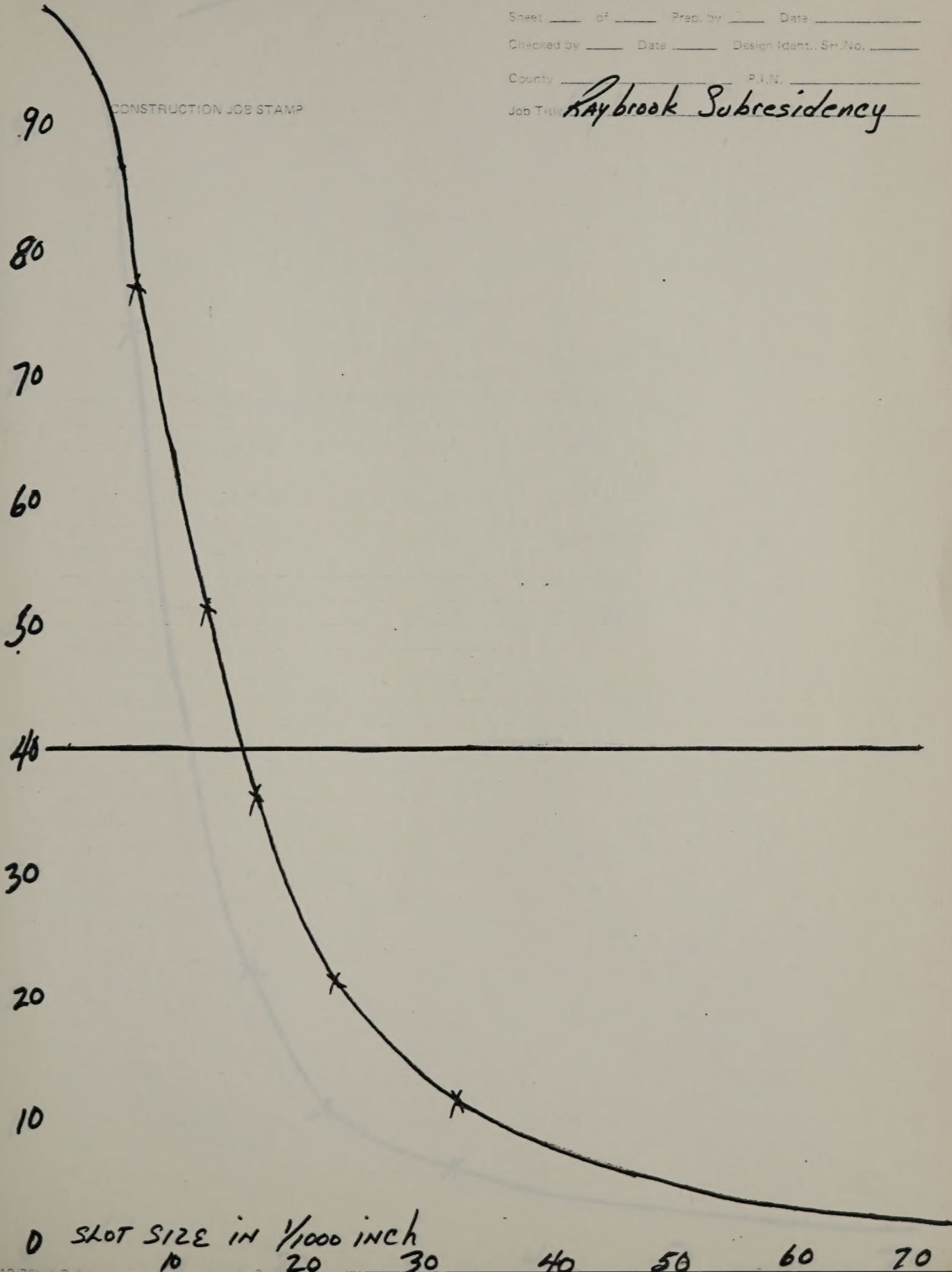
Checked by _____ Date _____ Design Ident./ Sh. No. _____

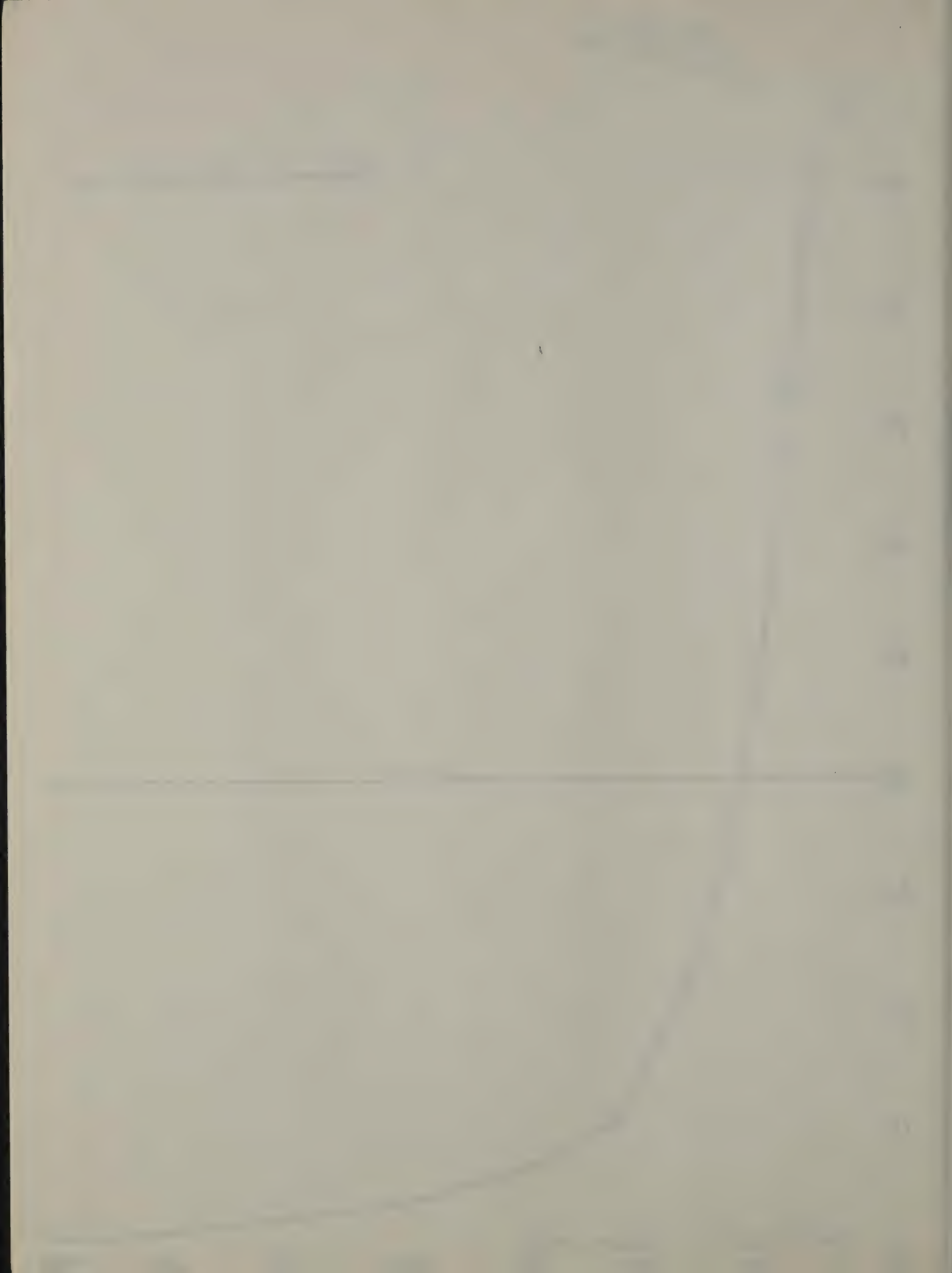
County _____ P.I.N. _____

Job Title Raybrook Subresidency

CONSTRUCTION JOB STAMP

PERMANENT





28-30

U.S. DEPARTMENT OF TRANSPORTATION

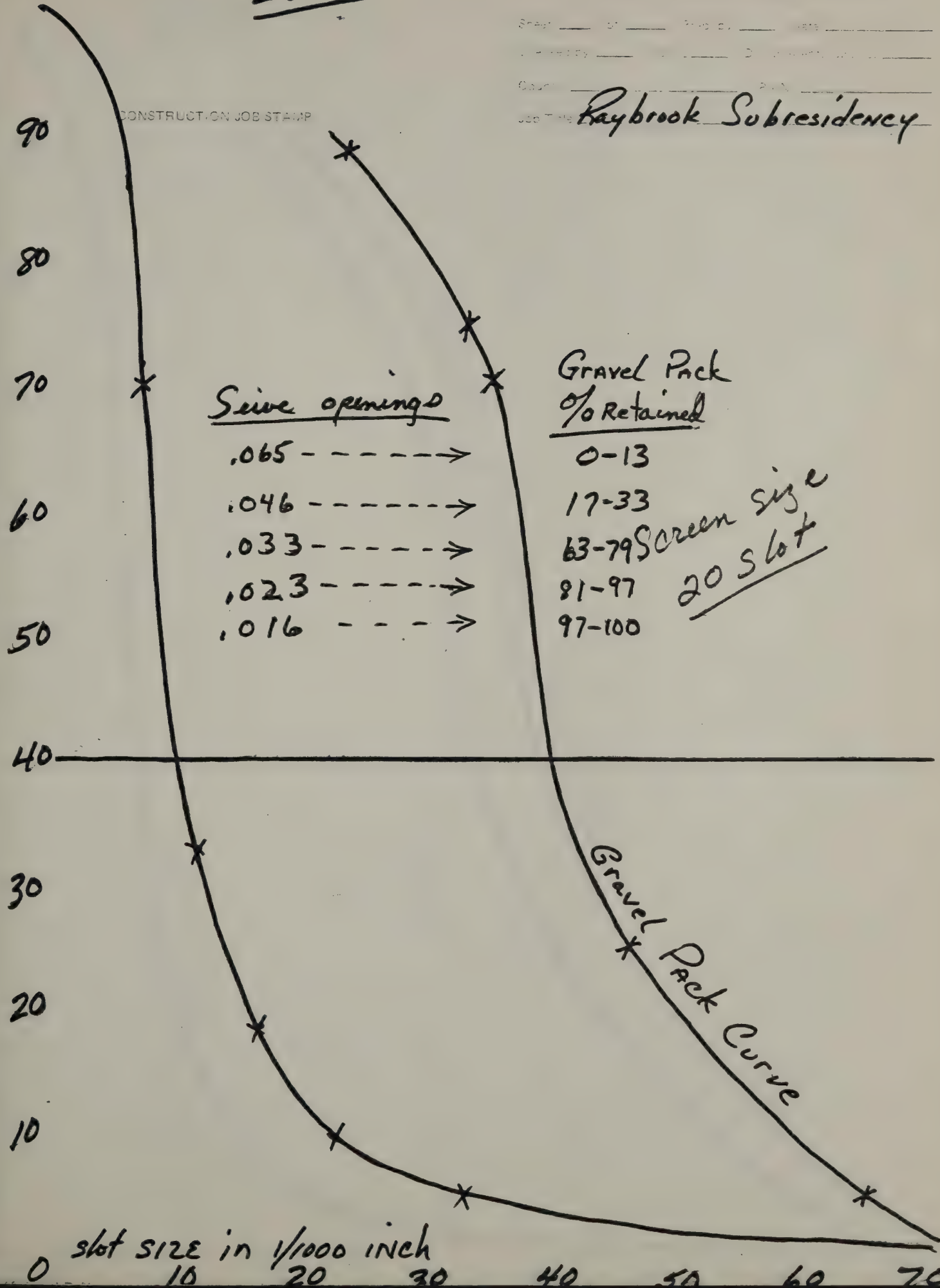
Sheet _____ of _____ Project No. _____ Date _____

Location _____

Contract _____

Job Title Raybrook Subresidency

CONSTRUCTION JOB STAMP



Sieve openings

- .065 - - - - ->
- .046 - - - - ->
- .033 - - - - ->
- .023 - - - - ->
- .016 - - - - ->

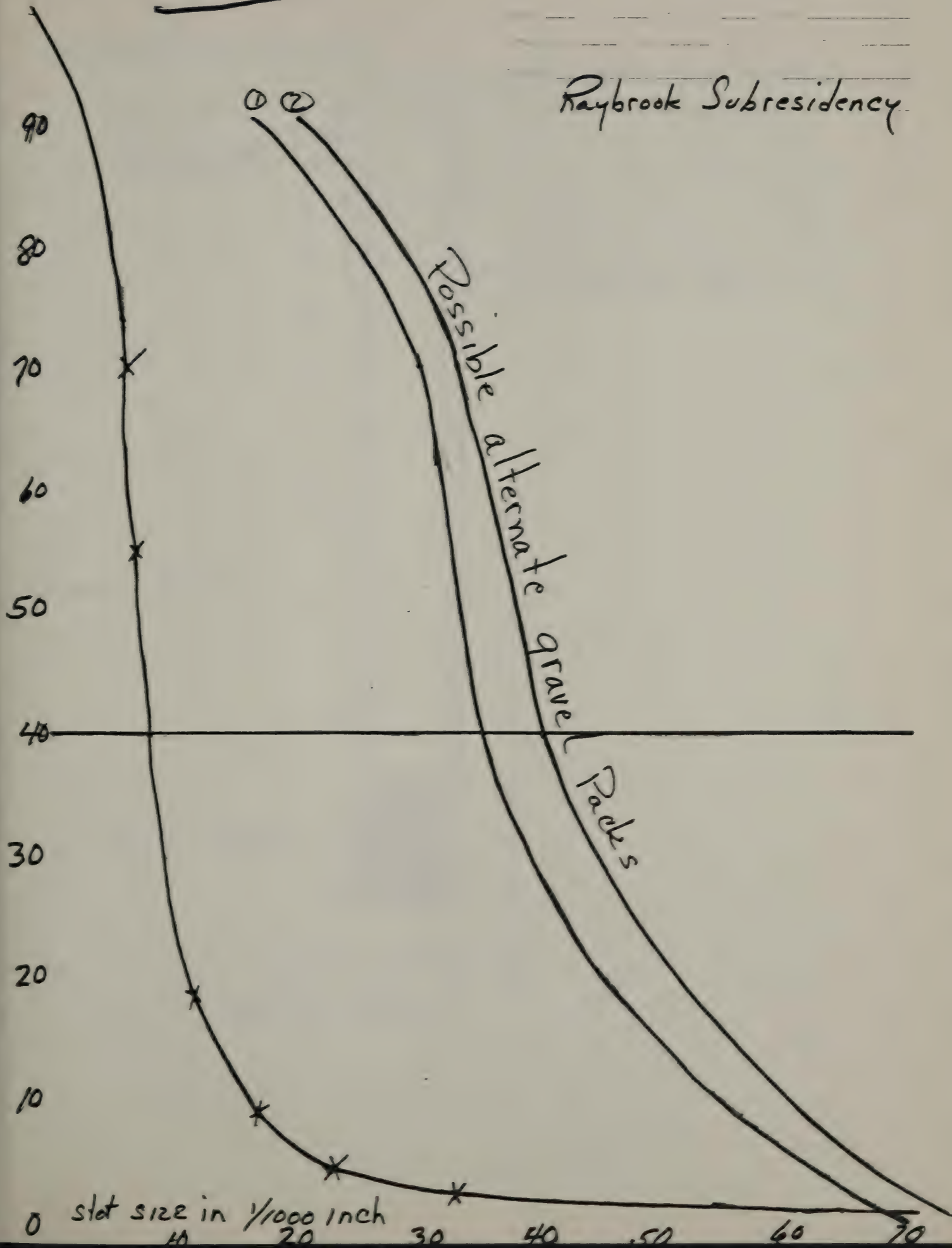
Gravel Pack
% Retained

- 0-13
- 17-33
- 63-79
- 81-97
- 97-100

Screen size
20 slot

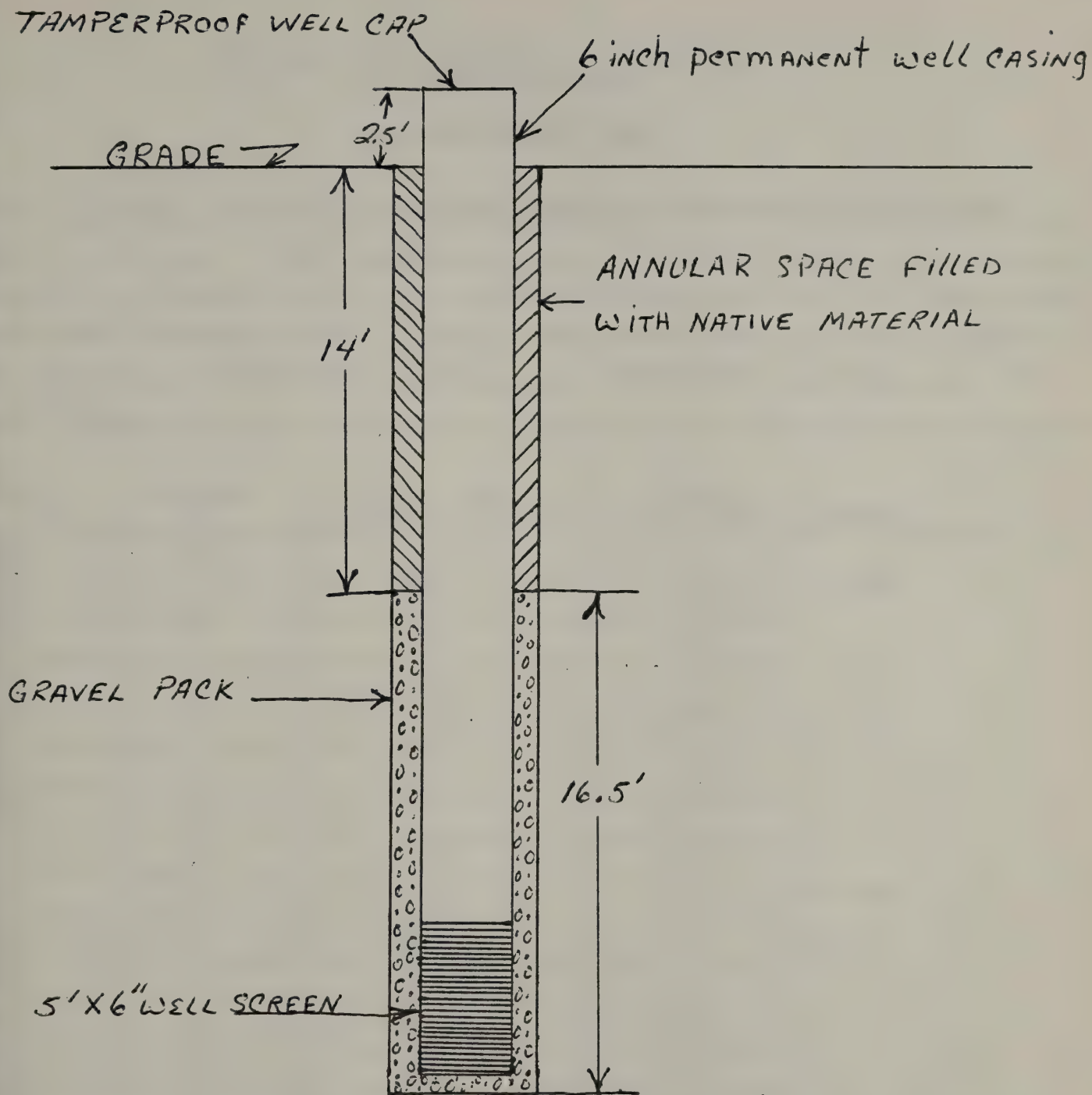
30-32'

Raybrook Subresidency

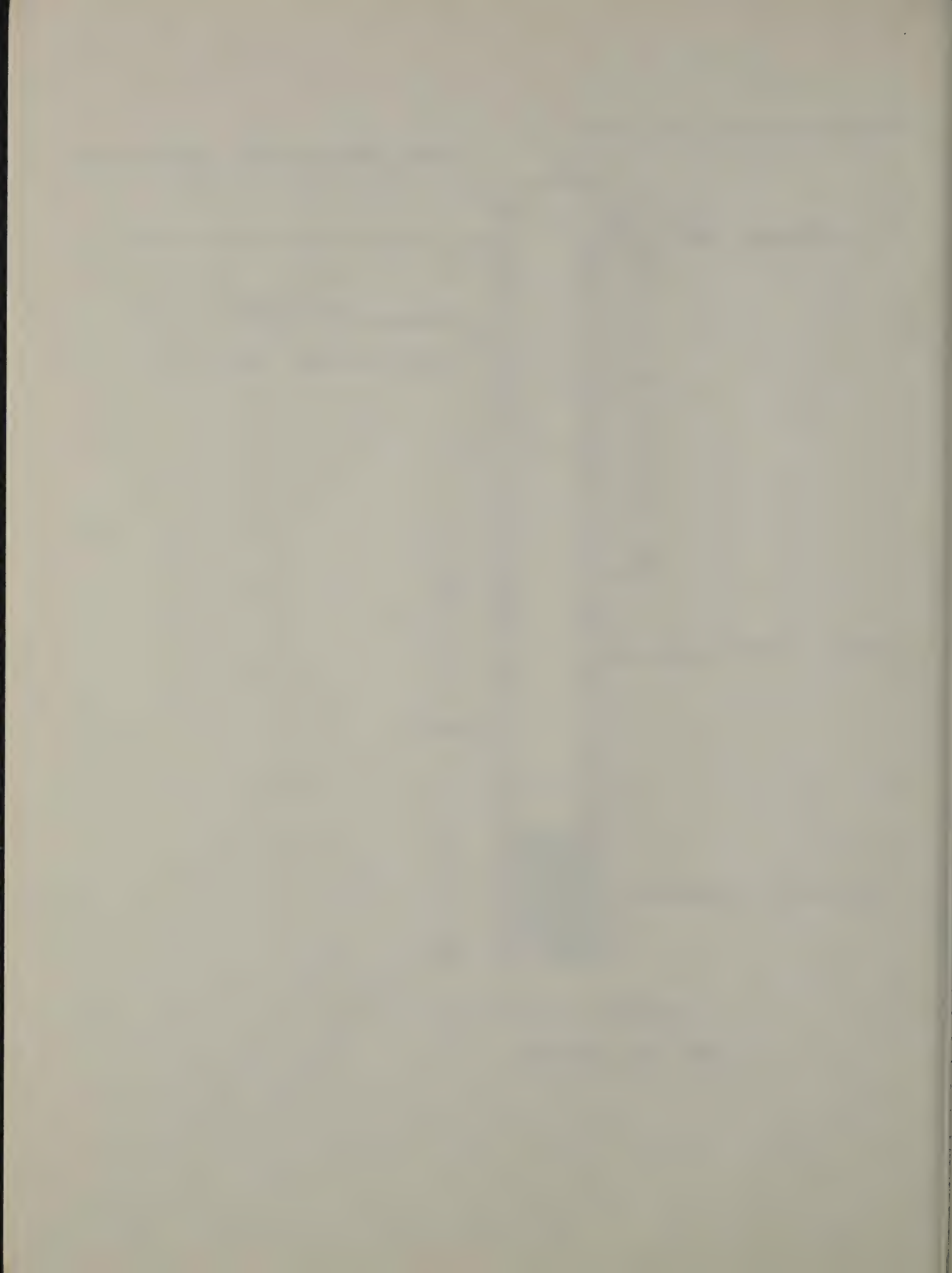


Graph of $y = \log x$ and $y = \log x + 1$





WELL PROFILE
NOT TO SCALE



New York State Department of Transportation
Soil Mechanics Bureau

CONSTANT RATE PUMP TEST

Project Test well for proposed Maintenance Engineers Subheadquarters at Ray Brook
 Region 1 : County Essex : PIN 1800.73.101
 Hole No. 1 Finished -30 ft. Elev. ground surfaceref - 0 Elev. top of pipe +2.5 ft.
 Static level (below top of pipe) 17.83 ft. : Pump Intake (below top of pipe) 31.50 ft.
 Date 9/27/79 : Time Started 6:00 AM : Pumping Rate 25 GPM
 Weather Clear

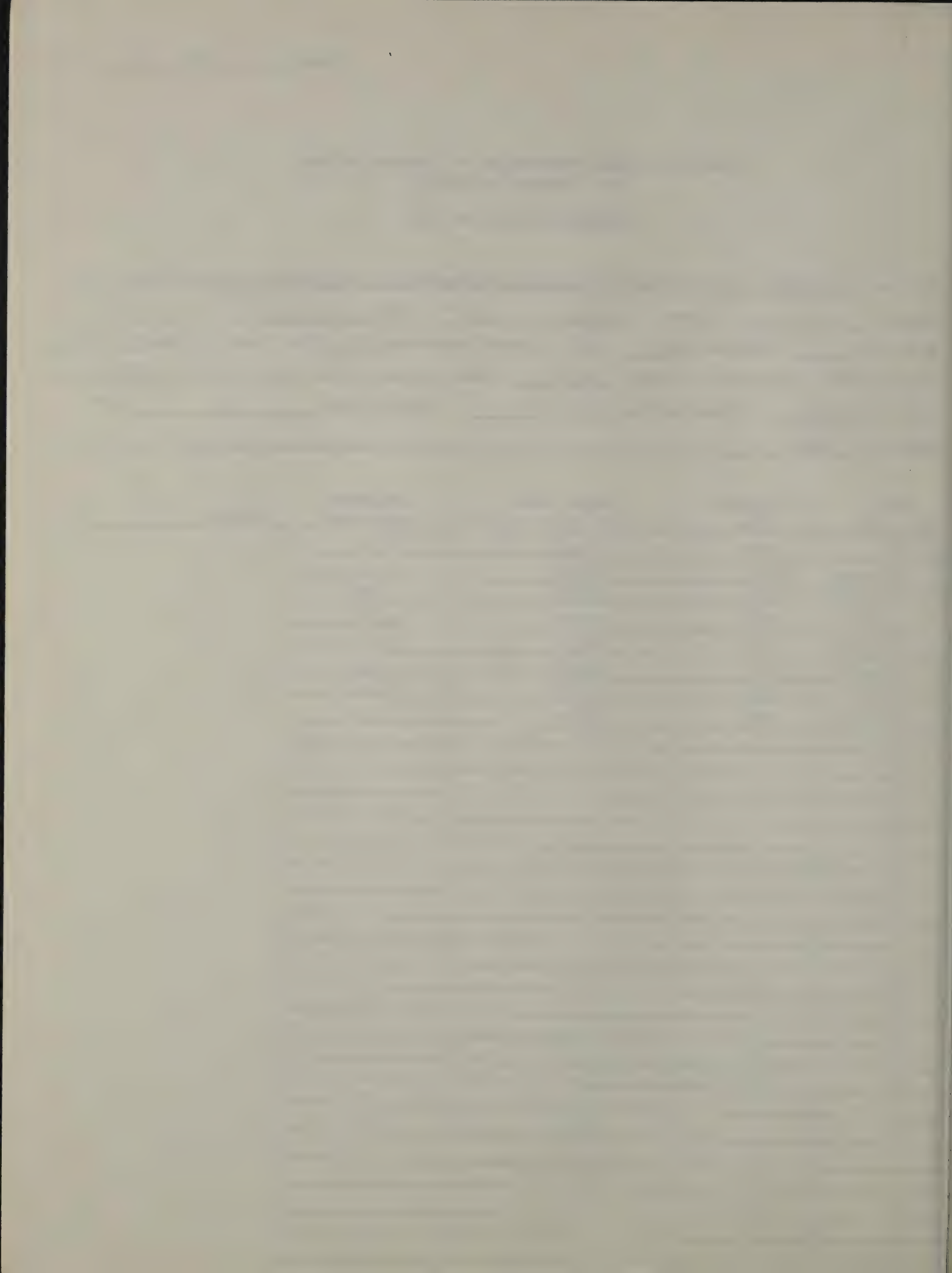
Time		Elapsed time	Water Depth below top of pipe	Drawdown from static	Remarks
AM	PM				
6:00		0	17.83	0	
6:01		1	20.29	2.46	159 gpm
6:02		2	20.38	2.55	
6:03		3	20.38	2.55	
6:04		4	20.42	2.59	
6:05		5	20.77	2.94	
6:06		6	21.17	3.34	20 gpm
6:07		7	21.13	3.30	
6:08		8	21.13	3.30	
6:09		9	21.25	3.42	
6:10		10	21.29	3.46	
6:20		20	23.25	5.42	20+ gpm
6:25		25	23.25	5.42	
6:30		30	23.67	5.84	25 gpm
6:35		35	23.71	5.88	
6:40		40	23.50	5.67	
6:45		45	23.54	5.71	
6:50		50	23.54	5.71	
6:55		55	23.50	5.67	
7:00		60	23.54	5.71	
7:10		70	23.71	5.88	
7:20		80	23.75	5.92	
7:30		90	23.83	6.00	
7:40		100	23.79	5.96	
8:00		120	23.83	6.00	
8:20		140	23.83	6.00	
8:40		160	23.54	5.71	
9:00		180	23.83	6.00	
9:20		200	23.88	6.05	
10:10		250	23.81	5.98	
11:00		300	23.75	5.92	

THE HISTORY OF THE CITY OF BOSTON FROM 1630 TO 1800

The city of Boston, founded in 1630, has a rich and varied history. It was the first city in North America to have a city government, and it was the first city to have a city seal. The city was founded by a group of Puritan settlers, and it grew rapidly in the years following its founding. It was the first city to have a city government, and it was the first city to have a city seal. The city was founded by a group of Puritan settlers, and it grew rapidly in the years following its founding.

Year	Event
1630	Founding of Boston by Puritan settlers
1634	First city government established
1639	First city seal adopted
1688	First city charter granted
1703	First city seal adopted
1729	First city charter granted
1780	First city seal adopted
1793	First city charter granted
1800	First city seal adopted

[illegible]



COLLECTED 9/27/79

DATE RECEIVED

OCT 3 1979

LAB NO. 037871

BENDER HYGIENIC LABORATORY

9 SAMARITAN DRIVE, ALBANY, NEW YORK 12208

Physical and Chemical Examination of Water

From Ray Brook Contract D96199

City, Village, Town, etc.

Essex

County

Water Supply NYS DOT

Tenant of Property

Point Well #1

Bacteriological sample being submitted?

Yes ☒ No

Chlorinated when sample?

Yes No ☒Collected by R. Rowe

Title

Driller

Report to: NAME

Hall + Co, Inc.

Bill to: NAME

Same

ADDRESS

20 Hallwood Rd.

ADDRESS

PHONE

Delmar, NY 12052

Physical

4.5

units

Density

0.8

units

06.6

units

Viscosity

34

micromhos

Chemical

Alkalinity, as CaCO_3 11

mg/L

Hardness, as CaCO_3 22

mg/L

Nitrate, as N

40.5

mg/L

Chemical Cont.

9. Iron

40.05

mg/L

10. Manganese

40.05

mg/L

11. Chloride

45

mg/L

12. Sulfate

45

mg/L

Other

Analyst

JW

Date

10/1/79

Concentrations: mg/L — milligrams per liter

< — less than

REPORT 1

OCT - 3 1979

SOIL MECHANICS
BUREAU

S.M.B.

LEH
WPM
SM
MCM
RAR
EMM
BEB
VCM
LDS
RHB
FRI
RJW
JRH
FILE



0222 ,
NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 1)

LAB ACCESSION NO: 09719 YR/MO/DAY/HR SAMPLE REC'D: 79/09/28/08

REPORTING LAB: 01 EHC ALBANY

PROGRAM: 820 NYS DEPT. OF TRANSP.

STATION (SOURCE) NO:

DRAINAGE BASIN: NY GAZETTEER NO: 1560 COUNTY: ESSEX

COORDINATES: DEG ' "N, DEG ' "W

COMMON NAME INCL SUBMITTED: RAY BROOK MAINT SUB RESIDENCE N ELBA

EXACT SAMPLING POINT: PUMP TEST LINE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 09/27/14

REPORT SENT TO: CO (1) RD (1) LPHE (2) LHD (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
026800 STD. PLATE COUNT 48 HR /ML		1.	LT
027000 COLIF. MF COL/100ML		1.	LT

DATE COMPLETED: 10/01/79

DEPUTY CHIEF ENGINEER, TECHNICAL SERVICES
NYS DEPT. OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: HOFMANN



0316

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 2 OF 2)

LAB ACCESSION NO: 01363 YR/MO/DAY/HR SAMPLE REC'D: 79/10/09/11

REPORTING LAB: 10 EHC ALBANY

PROGRAM: 820 NYS DEPT. OF TRANSP.

STATION (SOURCE) NO:

DRAINAGE BASIN: NY GAZETTEER NO: 1560 COUNTY: ESSEX

COORDINATES: DEG ' "N, DEG ' "W

COMMON NAME INCL SUBMITTED: RAY BROOK MAINTENANCE SUB RES NORTH ELBA

EXACT SAMPLING POINT: PUMP TEST LINE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 09/27/14

REPORT SENT TO: CO (1) RO (1) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
010701 SODIUM	MG/L	0.9	
100200 TURBIDITY, N.T.U. NEPHEL.			NA
100300 ODOR, COLD		NONE.	
101501 ALKALINITY, ELECTROM. PH4.5	MG/L	5.0	
106501 C.O.D.	MG/L		SD
309301 ARSENIC	MG/L	0.01	LT
309701 CADMIUM	MG/L	0.002	LT
309801 CHROMIUM	MG/L	0.01	
310101 LEAD	MG/L	0.01	LT
310501 SELENIUM	MG/L	0.01	LT
009301 ARSENIC	MG/L	0.5	LT

DATE COMPLETED: 11/15/79

DEPUTY CHIEF ENGINEER, TECHNICAL SERVICES
NYS DEPT. OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: HOFFMAN

0315

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 2)

LAB ACCESSION NO: 01363 YR/MO/DAY/HR SAMPLE REC'D: 79/10/09/11

REPORTING LAB: 10 EHC ALBANY

PROGRAM: 820 NYS DEPT. OF TRANSP.

STATION (SOURCE) NO:

DRAINAGE BASIN: NY GAZETTEER NO: 1560 COUNTY: ESSEX

COORDINATES: DEG ' "N, DEG ' "W

COMMON NAME INCL SUBM'SHED: RAY BROOK MAINTENANCE SUB RES NORTH ELBA

EXACT SAMPLING POINT: PUMP TEST LINE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 09/27/14

REPORT SENT TO: CO (1) RO (1) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
000100 COLOR (APPARENT)		16.	
000401 FLUORIDE, FREE	MG/L	0.1	LT
000501 NITROGEN, AMMONIA	MG/L	0.023	
000709 NITROGEN, NITRITE	MCG/L	5.	LT
000801 NITROGEN, NITRATE & NITRITE	MG/L	0.2	LT
001001 CHLORIDE	MG/L	3.	LT
001101 HARDNESS, TOTAL AS CaCO3	MG/L	14.	
001900 PH (LABORATORY)		5.8	
009401 BARIUM	MG/L	0.5	LT
010001 IRON	MG/L	0.05	LT
010201 MANGANESE	MG/L	0.02	LT
010301 MERCURY, TOTAL	MG/L	0.0004	LT
010601 SILVER	MG/L	0.02	LT

DATE COMPLETED: 11/15/79

DEPUTY CHIEF ENGINEER, TECHNICAL SERVICES
NYS DEPT. OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: HOFFMAN

November 20, 1979

PIN 1800.73-101, D96199

TEST WELL REPORT

PROPOSED MAINTENANCE ENGINEER'S SUBHEADQUARTERS

AT RAY BROOK

ESSEX COUNTY

L. H. Moore, Director, Soil Mechanics Bureau, Room 102, Bldg. 7

By: Edward M. Moody

C. E. Carlson, Regional Director, Region 1

Attention: W. M. Stewart

cc D. H. Fasser, Landscaping Bureau, Room 407, Bldg. 5

The attached memorandum was prepared by R. J. Bazarnick, Assistant Engineering Geologist, of this Bureau. It details the drilling and pumping operations conducted on this project and contains pertinent data relative to the well testing.

We concur with the geologist's recommendations.

EMM/FJG/sas
Attachment

MEMORANDUM
DEPARTMENT OF TRANSPORTATION

DATE November 20, 1979

SUBJECT PIN 1800.73-101, D96199
TEST WELL REPORT
PROPOSED MAINTENANCE ENGINEER'S SUBHEADQUARTERS
AT RAY BROOK
ESSEX COUNTY

FROM L. H. Moore, Director, Soil Mechanics Bureau, Room 102, Bldg. 7

TO By: Edward M. Moody *Edward M. Moody*
C. E. Carlson, Regional Director, Region 1
Attention: W. M. Stewart

cc D. H. Fasser, Landscaping Bureau, Room 407, Bldg. 5

The attached memorandum was prepared by R. J. Bazarnick, Assistant Engineering Geologist, of this Bureau. It details the drilling and pumping operations conducted on this project and contains pertinent data relative to the well testing.

We concur with the geologist's recommendations.

EMM/FJG/sas
Attachment

MEMORANDUM
DEPARTMENT OF TRANSPORTATION

November 20, 1957

DATE

FOR THE RECORD, BUREAU

COMMENT

THIS CASE

RECOMMENDATION FOR THE RECORD

AT THE BUREAU

FILED

FROM

L. H. Brown, Director, Civil Engineering Bureau, Room 102, Bldg. 7

TO: Bureau of Road

TO

Handwritten signature

C. E. Brown, Assistant Director, Bureau

Assistant, A. M. Brown

C. E. Brown, Assistant Director, Bureau, Room 102, Bldg. 7

cc

The attached memorandum was prepared by A. J. Brown, Assistant
Engineering Director, of this Bureau. It details the history and
present operations conducted on this project and contains pertinent
data relative to the well testing.

We agree with the engineer's recommendations.

INITIALS
DATE

00972



LRI